APPENDIX A
LIST OF PROPOSED FEDERAL WELL LOCATIONS

Well Name/ Type	BLM Lease Number	Location/ Surface Ownership						Proposed Depth (feet)
		Twn	Rng	Sec	Qtr1	Qtr2	Owner	
Consol Fed 32C-1599/Federal	MTM-61667	9 S	39 E	15	SW	NE	Private	594
Consol Fed 32M-1599/Federal	MTM-61667	9 S	39 E	15	SW	NE	Private	450
Consol Fed 43C-1599/Federal	MTM-61667	9 S	39 E	15	NE	SE	Private	594
Consol Fed 43M-1599/Federal	MTM-61667	9 S	39 E	15	NE	SE	Private	450
Consol Fed 12C-1990/Federal	MTM-83773	9 S	40 E	19	SW	NW	Private	610
Consol Fed 12D-1990/Federal	MTM-83773	9 S	40 E	19	SW	NW	Private	370
Consol Fed 12M-1990/Federal	MTM-83773	9 S	40 E	19	SW	NW	Private	479
Consol Fed 13C-1890/Federal	MTM-83773	9 S	40 E	18	NW	SW	Private	855
Consol Fed 13D-1890/Federal	MTM-83773	9 S	40 E	18	NW	SW	Private	555
Consol Fed 13M-1890/Federal	MTM-83773	9 S	40 E	18	NW	SW	Private	730
Consol Fed 42C-1399/Federal	MTM-86635	9 S	39 E	13	SE	NE	Private	835
Consol Fed 42M-1399/Federal	MTM-86635	9 S	39 E	13	SE	NE	Private	695
Consol Fed 22C-2399/Federal	MTM-75935	9 S	39 E	23	SE	NW	Private	790
Consol Fed 22M-2399/Federal	MTM-75935	9 S	39 E	23	SE	NW	Private	635
Consol Fed 43C-2399/Federal	MTM-61667	9 S	39 E	23	NE	SE	Private	595
Consol Fed 43M-2399/Federal	MTM-61667	9 S	39 E	23	NE	SE	Private	486
Consol Fed 41C-2699/Federal	MTM-61667	9 S	39 E	26	NE	NE	Private	770
Consol Fed 41D-2699/Federal	MTM-61667	9 S	39 E	26	NE	NE	Private	590
Consol Fed 44C-2699/Federal	MTM-61667	9 S	39 E	26	SE	SE	Private	744
Consol Fed 44D-2699/Federal	MTM-61667	9 S	39 E	26	SE	SE	Private	405
Consol Fed 44M-2699/Federal	MTM-61667	9 S	39 E	26	SE	SE	Private	515
Federal 24C-2399/Federal	MTM-61667	9 S	39 E	23	SE	SW	Federal	800
Federal 24C-2699/Federal	MTM-74394	9 S	39 E	26	SE	SW	Federal	723
Federal 24D-2699/Federal	MTM-74394	9 S	39 E	26	SE	SW	Federal	415
Existing Well: Consol Fed 42D-1599	MTM-61667	9 S	39 E	15	SE	NE	Private	Existing Well Depth: 353

APPENDIX B

SPECIAL STATUS SPECIES AFFECTS DETERMINATIONS SUMMARY TABLES

Federally Listed Threatened and Endangered Species and Species Proposed for Listing

Species	Status	In Range (yes/no)	Habitat Present (yes/no)	Affects Determination (brief rationale)
Bald Eagle	T	yes	yes	May affect (see discussion sections 3.12 & 4.2.12)
Least tern	E	yes	no	
Piping Plover	T	no		
Whooping Crane	E	no		
Black-footed ferret	E	yes	yes	
Canada Lynx	T	no		
Gray wolf	E	no		
Grizzly Bear	T	no		
Bull Trout	T	no		
Pallid Sturgeon	E	no		
Spalding's Catchfly	P	no		
Ute Ladies'-tresses	T	no		
Water Howellia	T	no		
Western Prairie Fringed Orchid	T	no		

SPECIAL STATUS SPECIES AFFECTS DETERMINATIONS
SUMMARY TABLES

BLM (Montana and Dakotas) Designated Sensitive Species

BIRDS			
Species	In Range (yes/no) 1	Habitat present (yes/no) 2	Effects Determination (brief rationale) 3
Black tern	yes	no	
Blue-gray gnatcatcher	no		
Burrowing owl	yes	yes	See discussion sections 3.12 & 4.2.12
Common loon	no		
Dickcissel	yes	no	
Ferruginous hawk	yes	yes	See discussion sections 3.12 & 4.2.12
Flammulated owl	no		
Franklin's gull	no		
Golden eagle	yes	yes	See discussion sections 3.12 & 4.2.12
Greater sage grouse	yes	yes	See discussion sections 3.12 & 4.2.12
Harlequin Duck	no	no	
Loggerhead shrike	yes	yes	See discussion sections 3.12 & 4.2.12
Long-billed curlew	yes	no	
Chestnut-collared longspur	no		
McCown's longspur	no		
Marbled Godwit	no		
Mountain plover	no	yes	
Northern goshawk	yes	no	Incidental observations on Ashland District of CNF
Peregrine Falcon	yes	yes	Possible migrant
Sage thrasher	no		
Baird's sparrow	yes	no	
Brewer's Sparrow	yes	yes	See discussion sections 3.12 & 4.2.12
LeConte's sparrow	no		
Nelson's sharp-tailed	No		

sparrow			
Sage sparrow	yes	yes	See discussion sections 3.12 & 4.2.12
Sedge wren	no		
Sprague's pipit	no		
Swainson's hawk	yes	yes	See discussion sections 3.12 & 4.2.12
Trumpeter swan	no		
White-faced ibis	no		
Willet	no		
Wilson's phalarope	no		
Black-backed woodpecker	no		
Three-toed woodpecker	yes	no	Documentation in counties west of project
Red-headed woodpecker	no		
White-faced ibis	no		

MAMMALS			
Species	In Range (yes/no) 1	Habitat present (yes/no) 2	Effects Determination (brief rationale) 3
Townsend's big-eared bat	yes	yes	Very little known of this species
Spotted bat	yes	yes	Very little known of this species
Fringe-tailed myotis	no		
Fringed myotis	no		
Long-legged myotis	yes	yes	Very little known of this species
Long-eared myotis	yes	yes	Very little known of this species
Northern myotis	no		
Pallid bat	no		
Fisher	no		
Great Basin pocket mouse	no		
North American wolverine	no		

Black-tailed prairie dog	yes	yes	See discussion sections 3.12 & 4.2.12
White-tailed prairie dog	no		
Pygmy rabbit	no		
Swift Fox	yes	no	
Western spotted skunk	no		

REPTILES and AMPHIBIANS			
Species	In Range (yes/no) 1	Habitat present (yes/no) 2	Effects Determination (brief rationale) 3
Boreal/Western toad	no		
Coeur d'Alene salamander	no		
Great Plains toad	yes	yes	See discussion sections 3.12 & 4.2.12
Greater short-horned lizard	yes	yes	Very little known of this species
Milk Snake	no		
Northern leopard frog	yes	no	
Plains spadefoot	yes	yes	See discussion sections 3.12 & 4.2.12
Snapping turtle	yes	yes	See discussion sections 3.12 & 4.2.12
Spiny softshell	yes	yes	See discussion sections 3.12 & 4.2.12
Western Hog-nosed snake	no		

FISH			
Species	In Range (yes/no) 1	Habitat present (yes/no) 2	Effects Determination (brief rationale) 3
Arctic grayling	no		
Blue sucker	no		
Northern redbelly X Finescale dace	no		
Paddlefish	no		

Pearl dace	no		
Sauger	yes	yes	See discussion sections 3.12 & 4.2.12
Shortnose gar	no		
Sicklefin chub	no		
Sturgeon chub	no		
Westslope cutthroat trout	no		
Yellowstone cutthroat trout	no		

1) If project is not within the range of the species no determination of habitat presence is needed.
2) If habitat is not present no effects determination is needed.
3) Detailed Effects Determination is provided in the narrative of Environmental Assessment

BLM (Montana and Dakotas) Designated Sensitive Species

Plants

Species	Known sites in project area
Agastache cusickii	no
Arabis fecunda	no
Astragalus ceramicus var. apus	no
Astragalus geyeri	no
Astragalus scaphoides	no
Astragalus terminalis	no
Camissonia andina	no
Camissonia parvula	no
Carex crawei	no
Carex parryana var. idahoa (C. idahoa)	no
Cryptantha scoparia	no
Elymus flavescens (Leymus flavescens)	no
Eriogonum salsuginosum (Stenogonum salsuginosum)	no
Lesquerella carinata var. languida	no
Lesquerella lesicii	no
Lesquerella pulchella	no
Lomatium attenuatum	no
Malacothryix torreyi	no
Nama densum	no
Oenothera pallida var. idahoensis (O. pallida ssp. pallida)	no
Penstemon lemhiensis	no
Penstemon whippleanus	no
Quercus macrocarpa	no
Shoshonea pulvinata	no
Sphaeromeria argenta	no
Taraxacum eriophorum	no
Thalictrum alpinum	no
Thelypodium paniculatum	no

APPENDIX C
SOCIAL AND ECONOMIC ASSUMPTIONS

The impact analysis is based on the assumptions used in the MT FEIS, 2003 at pages 4-8, 4-111, 4-112 and the ZurMehlen, 2001 and the Langhus, 2001 data for employment and income estimates. The Montana CBNG wells have an average life of 15 years and are expected to produce .3 BCF (MT FEIS Vol. II, MIN-16). Exploration wells do not produce income and ten percent are dry holes. A gas price of $4.00 per thousand cubic feet is assumed for this analysis.

The employment and income created are related to the project phase. The number of jobs and the associated wages for each phase are estimated as follows (ZurMehlen, 2001): 7 jobs and payroll of $365,000 per 160 wells for exploration and development plus $6,600 per well for 42 contract well drillers and pipeline installers (Langhus, 2001); 9 jobs and payroll of $345,000 per 160 wells for production; and 12 jobs and payroll of $415,000 per 160 wells for abandonment. Typical drilling operations, whether exploration or production, would require 3 to 5 days with an additional 2 to 3 days for completion work. A maximum 7 to 8 people would be present at any one time during the construction phase.

All dollar amounts are reported in 2001 dollars with no adjustments for inflation for comparison with the MT FEIS analysis.

Royalty rates for all lease ownerships, Federal, State and private, are assumed at 12.5 percent of well head value. Montana receives 50 percent of the Federal royalties paid. Montana taxes all gas production at 9.3 percent of well head value, after the first year. Private royalties are taxed at 15.1 percent. On average 50 percent of the production taxes are returned to the local governments.

Impacts to livestock operations could result from construction of the well pad sites, groundwater drawdown and produced water. However, the 160 acre spacing of the well pads and the temporary nature of the activities associated with CBNG drilling and testing, should not result in a reduction of AUM's to individual operators and suitable produced water can be used for livestock. (See Livestock section) Also, the MT-DNRC requires CBNG operators to offer water mitigation agreements to owners of water wells or natural springs adversely impacted by CBNG development. (See Hydrology section)

Direct economic impacts include changes in personal income and employment; lease royalties; income and production taxes. Indirect impacts would include induced economic activity from local purchases for supplies, equipment and services.

Social impacts would include changes to social well being due to changes in personal income and employment and possible effects to private surface owners whose land is underlain by federal minerals.

APPENDIX D
RIGHT-OF-WAY STIPULATIONS

The right-of-way grant to Fidelity Exploration & Production Company for the buried gas and water pipelines, buried powerlines, and access roads would be issued under the authority of Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185) and subject to the terms and conditions in 43 CFR 2880, in the application and plan of development, and subject to the stipulations listed below.

STIPULATIONS:

1. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with Fidelity's Dry Creek Plan of Development which was approved and made a part of the grant. Any relocation, additional construction, or use that is not in accord with the approved plan of development, shall not be initiated without the prior written approval of the authorized officer. A copy of the complete right-of-way grant, including all stipulations and approved plan(s) of development, shall be made available on the right-of-way area during construction, operation, and termination to the authorized officer. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

2. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

3. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

4. The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

5. Holder shall remove only the minimum amount of vegetation necessary for the construction of structures and facilities. Topsoil shall be conserved during excavation and reused as cover on disturbed areas to facilitate regrowth of vegetation.

6. The holder shall seed all disturbed areas with native seed, using an agreed upon method suitable for the location. Seeding shall be repeated if a satisfactory stand is not obtained as determined by the authorized officer upon evaluation after one growing season. The holder must seed all disturbed areas with the seed mixture(s) listed below. The seed mixture(s) must be planted in the amounts specified in pounds of pure live seed (PLS)/acre. There must be no primary or secondary noxious weed seed in the seed mixture. Seed must be tested and the viability testing of seed must be done in accordance with State law(s) and within six months prior to purchase. Commercial seed

must be either certified or registered seed. The seed mixture container must be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed must be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture must be evenly and uniformly planted over the disturbed area. Smaller/heavier seeds have a tendency to drop to the bottom of the drill and are planted first. The holder must take appropriate measures to ensure this does not occur. Where drilling is not possible, seed may be broadcast and the area raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled. The seeding must be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth will not be made before completion of the second growing season after seeding. The Authorized Officer is to be notified a minimum of seven days prior to seeding of the project.

ROW Seed Mixture (Silty or Clayey Ecological Sites)

The combination must include at least four of the following species. Western wheatgrass must be included in the mix. Thickspike wheatgrass may be substituted for wheatgrass only when western wheatgrass is unavailable.

Species of Seed	***(Variety)***	***Common Name***	***Pounds/acre *(PLS)***
Pascopyrum smithii	(Rosanna)	Western wheatgrass	3.00
Pseudoroegneria spicata	(Goldar)	Bluebunch wheatgrass	2.00
Stipa viridula	(Lodom)	Green needlegrass	2.00
Elymus trachycaulus	(Pryor)	Slender wheatgrass	2.00
Stipa comata		Needleandthread 1.00	
Bouteloua curtipendula		Sideoats Grama	2.00
Schizachyrium scoparium		Little bluestem	2.00

Pure Live Seed (PLS) formula:% of purity of seed mixture times% germination of seed mixture = portion of seed mixture that is PLS

7. The proposed improved portion of the road, Lot 2, Section 18 and the NENW, Section 19, T. 9 S., R. 40 E., as part of this authorization shall be constructed and maintained in accordance with the BLM standards prescribed for a Resource Road as described in the *Surface Operating Standards for Oil and Gas Exploration and Development* (BLM 1989; also known as the "Gold Book").

8. The holder shall be responsible for weed control on disturbed areas within the limits of the right-of-way. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within the limits imposed in the grant stipulations).

9. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 3-4 inches deep, the soil shall be deemed too wet to adequately support construction equipment.

10. *The holder shall coordinate with the parties holding authorized rights on the adjacent and affected land [such as the grazing permittee/lessee].

11. Sixty days prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a joint inspection of the right-of-way. This inspection will be held to agree to an acceptable termination (and rehabilitation) plan. This plan shall include, but is not limited to, removal of facilities, drainage structures, or surface material, recontouring, topsoiling, or seeding. The authorized officer must approve the plan in writing prior to the holder's commencement of any termination activities.

* This non-standard stipulation was approved by the District Manager, which is the next higher level of Bureau line management, for right-of-way MTM-83461, on September 28, 1994.

APPENDIX E
HYDROLOGY

Table Hydro-1: Comparison of Direct Surface Water Impacts

	Flow Conditions	Historical Conditions (Pre-1998) (0 gpm)			Modeled Existing Conditions/No Action (1138 gpm)			Modeled Resultant Proposed Action (1313 gpm)		
		Flow (cfs)	EC (µS/cm)	SAR	Flow (cfs)	EC (µS/cm)	SAR	Flow (cfs)	EC (µS/cm)	SAR
Tongue River at State Line	7Q10	42.0	1273	1.07	44.5	1307	1.53	44.9	1312	1.60
	LMM	178.0	682	0.63	180.5	702	0.82	180.9	705	0.85
	HMM	1670.0	259	0.27	1672.5	261	0.30	1672.9	261	0.30
Tongue River Below Dam	7Q10	70.0	825	0.98	72.5	841	1.21	72.9	844	1.24
	LMM	179.0	651	0.78	181.5	664	0.93	181.9	667	0.95
	HMM	1429.0	390	0.49	1431.5	395	0.53	1431.9	396	0.54
Tongue River at Birney Day School	7Q10	52.7	1122	1.57	51.5	1138	1.80	51.9	1141	1.83
	LMM	176.7	717	1.03	175.5	730	1.18	175.9	733	1.20
	HMM	1122.7	372	0.56	1121.5	377	0.60	1121.9	378	0.61

Note: Values in parentheses represent the rate of untreated CBNG Discharge via permit MT-0030457

Table Hydro-2: Comparison of Cumulative Surface Water Impacts (includes other foreseeable projects inputs)

	Flow Conditions	Historical Conditions (Pre-1998) (0 gpm)			Modeled Foreseeable Conditions/ No Action (1138 gpm)			Modeled Resultant Proposed Action (1313 gpm)		
		Flow (cfs)	EC (µS/cm)	SAR	Flow (cfs)	EC (µS/cm)	SAR	Flow (cfs)	EC (µS/cm)	SAR
Tongue River at State Line	7Q10	42.0	1273	1.07	48.3	1282	1.60	48.7	1302	1.79
	LMM	178.0	682	0.63	184.3	703	0.87	185	712	0.94
	HMM	1670.0	259	0.27	1676.3	262	0.31	1677	262	0.32
Tongue River Below Dam	7Q10	70.0	825	0.98	78.8	835	1.27	79.2	843	1.36
	LMM	179.0	651	0.78	187.8	667	0.99	188.2	673	1.04
	HMM	1429.0	390	0.49	1437.8	398	0.55	1438.2	400	0.57
Tongue River at Birney Day School	7Q10	52.7	1122	1.57	57.8	1132	1.86	58.2	1140	1.95
	LMM	176.7	717	1.03	181.8	733	1.24	182.2	739	1.29
	HMM	1122.7	372	0.56	1127.8	380	0.62	1128.2	382	0.64

Note: Values in parentheses represent the rate of untreated CBNG Discharge via permit MT-0030457

Table 3: Summery of Surface Water Model Inputs by Alternative

	Discharge Rates (gpm)				Water Quality							
	Direct		Cumulative									
	Existing	B	Foreseeable	B	EC (μS/cm)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	Ca (meq/L)	Mg (meq/L)	Na (meq/L)	SAR
Fidelity-Untreated	1138	1313	1138	1313	1987	3.9	1.7	508	0.20	0.14	22.10	53.8
PRG	0	0	1122	1122	742	51	1	79	2.55	0.08	3.44	3.00
Fidelity-Treated	0	0	1700	1700	742	51	1	79	2.55	0.08	3.44	3.00

Table Hydro-4:

Summary of Predicted Radius of the 20 Foot Drawdown from the Existing CBNG Wells (463 MT Wells and ~2000 WY Wells)

Time Pumped	Average Pumping Rate per Well (gpm)	Coal Seam	Average Pumping Rate per Coal Seam (gpm)	Results (mi) (K=1.1ft/day)
1 Year	5.9	D1	2947	1.12
		D2	2970	0.97
		D3	2970	0.91
		Monarch	2841	0.85
		Carney	2788	0.91
5 Years	3.1	D1	1567	2.48
		D2	1580	2.16
		D3	1580	2.03
		Monarch	1511	1.89
		Carney	1483	2.03
10 Years	1.8	D1	896	3.46
		D2	903	3.03
		D3	903	2.85
		Monarch	863	2.66
		Carney	847	2.85
20 Years	0.9	D1	457	4.77
		D2	461	4.21
		D3	461	3.97
		Monarch	441	3.70
		Carney	432	3.96
			Max =	4.77
			feet =	25,204

Table Hydro-5:

Summary of Predicted Radius of the 20 Foot Drawdown from the Existing CBNG Wells (463 MT Wells and ~2000 WY Wells) plus the 25 Dry Creek CBNG Wells

Time Pumped	Average Pumping Rate per Well (gpm)	Coal Seam	Average Pumping Rate per Coal Seam (gpm)	Results (mi) (K=1.1ft/day)
1 Year	5.9	D1	2959	1.12
		D2	2982	0.97
		D3	2982	0.91
		Monarch	2888	0.85
		Carney	2852	0.91
5 Years	3.1	D1	1573	2.48
		D2	1586	2.16
		D3	1586	2.03
		Monarch	1536	1.89
		Carney	1517	2.03
10 Years	1.8	D1	899	3.46
		D2	906	3.03
		D3	906	2.85
		Monarch	878	2.66
		Carney	867	2.85
20 Years	0.9	D1	459	4.77
		D2	462	4.21
		D3	462	3.97
		Monarch	448	3.70
		Carney	442	3.96
			Max =	4.77
			feet =	25,210

Table Hydro-6

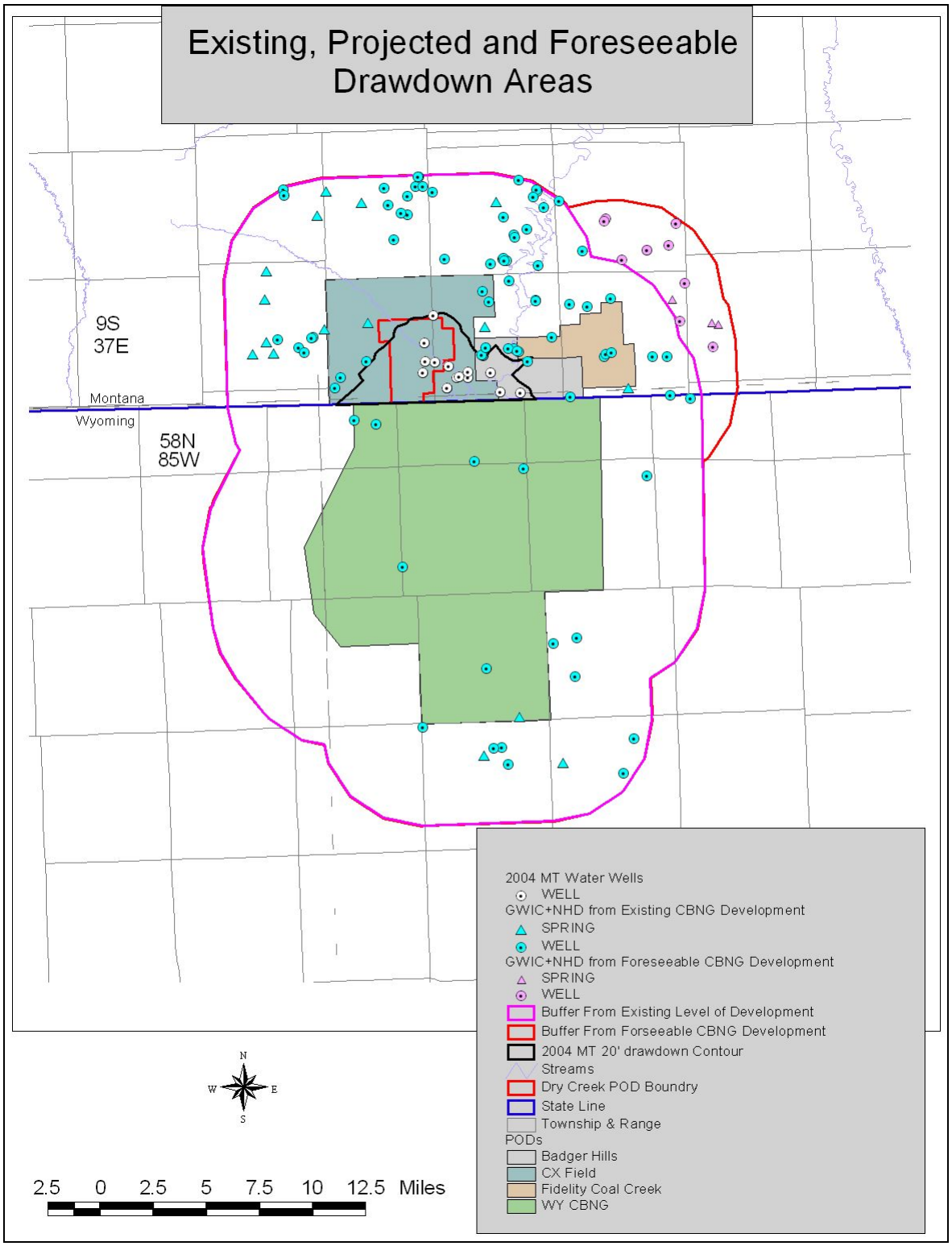
Summary of Predicted Radius of the 20 Foot Drawdown from the Existing and Foreseeable CBNG Wells (673 MT Wells and ~2000 WY Wells)

Time Pumped	Average Pumping Rate per Well (gpm)	Coal Seam	Average Pumping Rate per Coal Seam (gpm)	Results (mi) (K=1.1ft/day)
1 Year	5.9	D1	3177	1.12
		D2	3224	0.97
		D3	3224	0.91
		Monarch	3088	0.85
		Carney	3041	0.91
5 Years	3.1	D1	1689	2.48
		D2	1715	2.17
		D3	1715	2.03
		Monarch	1642	1.89
		Carney	1617	2.03
10 Years	1.8	D1	965	3.47
		D2	980	3.04
		D3	980	2.86
		Monarch	939	2.66
		Carney	924	2.85
20 Years	0.9	D1	493	4.79
		D2	500	4.22
		D3	500	3.98
		Monarch	479	3.71
		Carney	472	3.97
			Max =	4.79
			feet =	25,300

Table Hydro-7:

Summary of Predicted Radius of the 20 Foot Drawdown from the Existing and Foreseeable CBNG Wells (673 MT Wells and ~2000 WY Wells) plus the 25 Dry Creek CBNG Wells

Time Pumped	Average Pumping Rate per Well (gpm)	Coal Seam	Average Pumping Rate per Coal Seam (gpm)	Results (mi) (K=1.1ft/day)
1 Year	5.9	D1	3188	1.12
		D2	3236	0.97
		D3	3236	0.91
		Monarch	3135	0.85
		Carney	3106	0.91
5 Years	3.1	D1	1696	2.48
		D2	1721	2.17
		D3	1721	2.03
		Monarch	1668	1.89
		Carney	1652	2.03
10 Years	1.8	D1	969	3.47
		D2	983	3.04
		D3	983	2.86
		Monarch	953	2.66
		Carney	944	2.85
20 Years	0.9	D1	494	4.79
		D2	502	4.22
		D3	502	3.98
		Monarch	486	3.71
		Carney	482	3.97
			Max =	4.79
			feet =	25,304



Map Hydro-1: Existing 20' Drawdown Area and the Projected & Foreseeable 20' Drawdown Areas with Existing & Foreseeable Levels of CBNG Development. *The 25 project CBNG wells would directly cause these drawdown contours to extend approximately 6 feet further from the well field and cumulatively 4 feet further. As such, no additional wells are springs are added to the projected drawdown areas as a result of the proposed action.*

Table Hydro-8: Wells in MT that are Contained in the Existing 20' Drawdown Contour

Site Name	Township	Range	Sec	Type	Total Depth
POWERS EVERETT	09S	39E	24	WELL	235
POWERS EVERETT	09S	39E	24	WELL	244
FOSS CLARIS W.	09S	39E	25	WELL	150
PKS-CX RANCH * 4 MI SW OF DECKER MT	09S	40E	30	WELL	NR
POWERS EVERETT G.	09S	40E	7	WELL	274
MULLER JAMES	09S	40E	28	WELL	300
BUMBACA DOMINIC F & ESTHER I	09S	40E	29	WELL	155
POWERS EVERETT G.	09S	40E	30	WELL	238
FOSS CLARIS W	09S	40E	31	WELL	NR
FOSS CLARIS	09S	40E	31	WELL	NR
CONNOR ARLOW	09S	40E	34	WELL	37
MULLER JIM	09S	40E	35	WELL	120
SQUIRRELL CREEK SCHOOL	09S	40E	29	WELL	189
MYER GARRETT	09S	40E	29	WELL	620
MCCARTHY JAMES * 5 M SW SQUIRREL SCH *	09S	40E	29	WELL	151
CX RANCH *WCX-26	09S	39E	14	WELL	NR

NR = Not Reported

Table Hydro-9: Additional Wells and Springs in MT&WY that are Projected to be Contained in the 20' Drawdown Contour which results from the Existing CBNG Wells over the Next 20 Years

Site Name	Township	Range	Sec	Type	Depth
NR	NR	NR	NR	SPRING	NA
NR	NR	NR	NR	SPRING	NA
NR	NR	NR	NR	SPRING	NA
NR	NR	NR	NR	SPRING	NA
NR	NR	NR	NR	SPRING	NA
* YOUNG J. * 13.6 M NW DECKER MT *	08S	39E	16	SPRING	NA
44 MAGNUM	09S	41E	34	SPRING	NA
BARTOT SPRING	08S	39E	8	SPRING	NA
BENSON*4 MI SE BAR V RANCH*	09S	38E	22	SPRING	NA
BENSON*6 MI SE BAR V RANCH*	09S	38E	28	SPRING	NA
CX RANCH	09S	39E	16	SPRING	NA
MONTAYLOR	08S	40E	15	SPRING	NA
PADLOCK RANCH *TANNER CK STOCK TANK	09S	38E	10	SPRING	NA
PADLOCK RANCH *WINTER PASTURE GAP STOCK TANK	09S	38E	3	SPRING	NA
SEKORA SPRING	08S	38E	24	SPRING	NA
THOMPSON J.W. *14 MI S OF BIG BEND SCHOOL	09S	40E	16	SPRING	NA
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
NR	NR	NR	NR	WELL	NR
* HOLMES RANCH * 13 M SE DECKER MT *	09S	41E	26	WELL	40
* HOLMES RANCH * 7.4 M E DECKER MT *	09S	41E	8	WELL	NR
* KUKUCHKA * 7M N SQUIRREL CREEK SCHOOL *	09S	40E	3	WELL	NR
BOUSQUET MAURICE E & LILLIAN	08S	40E	13	WELL	50
CADY RICK	08S	40E	13	WELL	100
CARBONE ROCCO	08S	38E	14	WELL	120
CARBONE ROCCO	08S	38E	14	WELL	160
DECKER COMMUNITY CENTER	08S	40E	27	WELL	200
DEPT OF FISH-WILDLIFE AND PARKS	08S	40E	35	WELL	46
EIDER WILLIS * 1.5 M NE DECKER MT	09S	40E	21	WELL	110
ELDER WILLIAM * 1.5 MI NE DECKER MT	09S	40E	21	WELL	110
ELDER WILLIS W.	09S	41E	26	WELL	252

NR = Not Reported; NA = Not Applicable

Data from the NHD dataset do not include names, TRS, or depth; however their locations are maped. 1

Table Hydro-9: Additional Wells and Springs in MT&WY that are Projected to be Contained in the 20' Drawdown Contour which results from the Existing CBNG Wells over the Next 20 Years

Site Name	Township	Range	Sec	Type	Depth
HERRINGTON D * 13 MI SE BIG BEND SCHOOL	09S	40E	9	WELL	150
HOLMES RANCH * 8.5 M E DECKER MT *	09S	41E	9	WELL	29
JOHNSTON	09S	41E	21	WELL	200
JOHNSTON	09S	41E	21	WELL	280
JOHNSTON * 1.3 M NE DECKER MT *	09S	40E	21	WELL	227
JOHNSTON MANSEL	09S	40E	21	WELL	280
KINNISON TOM	08S	40E	13	WELL	200
KUCHKUKA	08S	40E	34	WELL	98
KUKUCHKA	08S	40E	34	WELL	40
KUKUCHKA * 1.25 MI NE TONGUE RIVER MINE.	08S	40E	34	WELL	553
KUKUCHKA WILLIAM	08S	40E	34	WELL	98
KUKUCHKA WM * 6.5 M NE DECKER MT	08S	40E	33	WELL	NR
LEE R. * 13.5 M NW DECKER MT	08S	40E	11	WELL	14
LEGGE KELLY & ROBIN	08S	40E	14	WELL	300
MINER JIM * 4.2 M SE DECKER MT	09S	40E	4	WELL	NR
MONTANA CLUB BAR * 1.5 MI NE DECKER MT	09S	40E	21	WELL	227
MONTAYLOR *SEWER SITE	08S	40E	23	WELL	176
MONTAYLOR *TOWNSITE	08S	40E	22	WELL	162
MUNSON	09S	40E	21	WELL	171
MUNSON EMMET * 2.4 M NE DECKER MT *	09S	40E	22	WELL	169
MUNSON EMMET * 3.5 MI NE DECKER	09S	40E	22	WELL	170
MUNSON EMMETT	09S	40E	24	WELL	140
MUNSON EMMETT	09S	40E	26	WELL	40
MUNSON MRS EMMETT	09S	40E	22	WELL	30
MUNSON MRS EMMETT	09S	40E	22	WELL	80
MUNSON VADA	09S	41E	31	WELL	257
NINER J * 15 MI NW DECKER MT	08S	39E	14	WELL	NR
PADLOCK RANCH	09S	38E	22	WELL	NR
PADLOCK RANCH	09S	38E	26	WELL	NR
PADLOCK RANCH	09S	38E	26	WELL	NR
PENSON CHARLES & GREGG	09S	40E	11	WELL	100
PENSON CHARLES AND GREGG	08S	41E	32	WELL	199
PENSON CHAS. & GREG	09S	40E	11	WELL	35
PIERCE J * 10.5 M NW DECKER MT	08S	39E	12	WELL	370
PIERCE J * 11 M NW DECKER MT	08S	39E	12	WELL	305
PIERCE J * 11.5 M E DECKER MT	08S	39E	13	WELL	348
PIERCE JOSEPH	08S	39E	13	WELL	300
PIERCE JOSEPH * .5 M N TONGUE RIVER DAM	08S	40E	18	WELL	303
PORTER HARVEY	09S	41E	7	WELL	338
RANCHOLME CATTLE CO.	09S	41E	28	WELL	200
ROBKE FRANK * 11.5 MI NW DECKER MT	08S	39E	12	WELL	106
ROCCO CARBONE	08S	39E	15	WELL	1151
SCHREIBELS H. * 20 M NW SHERIDAN WY.	09S	38E	24	WELL	240
SCHREIBIES*5.5 MI NE DECKER MT*	09S	38E	24	WELL	19
STATE WATER CONSERVATION BOARD	08S	41E	18	WELL	42
STATES J. VERNON	09S	39E	21	WELL	615
STATES J. VERNON	09S	39E	32	WELL	160
STATES VERNON	09S	39E	29	WELL	64
THOMAS JESS	09S	40E	21	WELL	462
TONGUE RIVER - PEE WEE POINT	08S	40E	26	WELL	127
SPRING CREEK COAL DOMESTIC	08S	39E	14	WELL	1220

NR = Not Reported; NA = Not Applicable

Data from the NHD dataset do not include names, TRS, or depth; however their locations are maped. 2

Table Hydro-10 Wells and Springs Cumulatively Added to the 20' Drawdown Area from Existing CBNG wells when Foreseeable Wells are Added

Site Name	Township	Range	Sec	Type	Total Depth
HOME SPRING	09S	42E	20	SPRING	NA
LOWER HOME SPRING	09S	42E	20	SPRING	NA
PORTER H. * 11.5 M E DECKER MT *	09S	41E	12	SPRING	NA
BUREAU OF LAND MANAGEMENT * BENCHMARK	09S	41E	13	WELL	322
CARLAT ROBERT * 12 M NE DECKER MT *	08S	41E	21	WELL	99
HOLMES RANCH CO * 1.8 MI N HOLMES RANCH.	08S	41E	34	WELL	181
PENSON CHAS. & GREG	08S	41E	21	WELL	125
PORTER H. * 4.2 MI W PINE BUTTE SCHOOL	08S	41E	24	WELL	42
PORTER H.A. * 12.3 MI NEW OF DECKER MT.	09S	41E	1	WELL	180
PORTER HARVEY	09S	42E	30	WELL	35
PORTER HARVEY	09S	41E	7	WELL	338
WILSON LEWIS C AND BEULAH A	08S	41E	35	WELL	12
WILSON LEWIS C AND BEULAH A	08S	41E	35	WELL	12

NA = Not Applicable

APPENDIX F
ALTERNATIVE B
ADDITIONAL MITIGATING MEASURES

General

1. The first well drilled to each targeted coal zone will be designated as the POD reference well. Designated reference wells must have the ability to be sampled at the wellhead. Water quality samples must be collected by the operator and submitted for analysis using MDEQ MPDES criteria within 60 days of initial water production. Results of the analysis must be submitted to the MCFO-BLM Authorized Officer as soon as they become available.

2. A pre-construction field meeting must be conducted prior to beginning any construction activities approved under this POD. The operator must contact the BLM Authorized Officer, (406-233-3645) at least 4 days prior to beginning operations so that the meeting can be scheduled. The operator is responsible for having all contractors present (dirt contractors, drilling contractor, pipeline contractor, project oversight personnel, etc.) including the overall field operations superintendent and for providing all contractors copies of the approved POD, project map and BLM Conditions of Approval pertinent to the work that each would be doing.

3. The operator must submit a Sundry Notice (Form 3160-5) to BLM for approval prior to construction of any new surface disturbing activities related to federal leases that are not specifically addressed in the approved APD or POD Surface Use Plan.

4. If any cultural values (sites, artifacts, human remains, etc.) are observed during operation of this lease/permit/right-of-way, they are to be left intact and the Miles City Field Manager notified. The authorized officer will conduct an evaluation of the cultural values to establish appropriate mitigation, salvage or treatment. The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials and contact the authorized BLM officer. Within five working days, the AO will inform the operator as to:
    - Whether the materials appear eligible for the National Register of Historic Places;
    - The mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
    - A time-frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction measures.

5. If paleontological resources, either large or conspicuous and/or a significant scientific value are discovered during construction, the find must be reported to the Authorized Officer immediately. Construction must be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological values. Operations within 250 feet of such a discovery must not be resumed until written authorization to proceed is issued by the Authorized Officer. The applicant must bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operation.

6. Prior to the use of pesticides on public land, the holder must obtain from the BLM authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers and any other information deemed necessary by the authorized officer to such use. Disturbed areas must be monitored annually for the presence of noxious weeds from June through August. Monitoring must begin prior to disturbance.

7. Fidelity employees and subcontractors will be prohibited from possessing firearms on the project.

8. The operator shall notify BLM (406-232-7001) at least 48 hours before beginning construction activities associated with the sites listed below. BLM shall immediately notify the Northern Cheyenne Tribe about construction activities. The company shall have its consulting archaeologist or an archaeologist holding a valid BLM Cultural Resources Permit at the sites listed below during construction. The operator shall provide the opportunity to the Northern Cheyenne Tribe for a qualified cultural resources specialist to monitor construction in the locations listed below for the Federal portion of the Dry Creek Coal Bed Natural Gas Plan of Development (POD) Area. The results of monitoring shall be reported in writing by the Consulting Archaeologist and Tribe to BLM within 14 days after completion of monitoring activities.

   The purpose of the monitoring is to identify any cultural resources that may be discovered by construction activities. The archaeologist or cultural resources specialist may temporarily halt construction within 300 feet (100 meters) of the find until it can be evaluated by a BLM Cultural Resources Specialist. The operator shall immediately notify BLM (406-232-7001) upon the discovery of cultural resources. The BLM authorized officer shall respond to the operator within the five working days as per Condition of Approval No. 5. The same conditions in Condition of Approval No. 5 would apply for buried cultural resources encountered during monitoring.

   CORRIDOR PLACEMENT
   The utility corridor between Wells 42 C, M-1399 and Wells 12D, M, C-1990 in sections 12, 18 and 19 shall be located within the bladed profile on the north/east side of the road.

   MONITORING REQUIREMENTS:
   Monitor trenching and blading operations at:

   The utility corridor between Wells 42 C, M-1399 and Wells 12D, M, C-1990 in sections 12, 18 and 19.
   The utility corridor between Well 22C, M-2399 and the battery site in section 24.
   The utility corridor between Wells 32M, C-1599, 43M, C-1599 and the battery site in section 14.
   A 2 acre area centered around Well 24C-2399.

9. Construction and drilling timing stipulation for sage grouse: No construction from March 1 to June 15 in grouse nesting habitat within two miles of an active lek for the following wells: 32 M,C-1599; 43 M,C-1599; 22 M,C,-2399; 43 M,C-2399; 24 C-2399; 41 C,D-2699; 24 C,D-2699 and 42 D-1599, unless BLM grants an exception.

10. Construction and drilling timing stipulation for mule deer winter range: All of the federal wells proposed within the Dry creek POD would be located within identified mule deer winter range. Construction and drilling activities are prohibited from December 1 to March 31, unless BLM grants an exception.

11. Construction and drilling timing stipulation for raptor nests active within the past two years: Construction and drilling activities are prohibited within 0.5 miles of a nest from March 1 to August 1, on the following wells: 12D,M,C-1990, unless BLM grants an exception.

Drilling

1. A diverter must be installed to control pressures. (BOP equipment is not required)

2. All wait on cement times must be sufficient for the cement to reach 500 psi compressive strength as required by Onshore Oil & Gas Order No. 2.III.B.

3. A minimum of three centralizers must be installed on the production casing and spaced to afford maximum protection of the shallow coals and aquifers.

4. Reserve pits must be adequately fenced during and after drilling operations until pit is reclaimed to effectively keep out wildlife and livestock. Adequate fencing, in lieu of more stringent requirements by the surface owner, is defined as follows:

- Construction materials must consist of steel or wood posts. Three or four strand wire (smooth or barbed) fence or hog panel (16-foot length by 50-inch height) or plastic snow fence must be used with connectors such as fence staples, quick-connect clips, hog rings, hose clamps, twisted wire, etc.
- Construction standards: Posts must be firmly set in ground. If wire is used, it must be taut and evenly spaced, from ground level to top wire, to effectively keep out animals. Hog panels must be tied securely into posts and one another using fence staples, clamps, etc. Plastic snow fencing must be taut and sturdy. Fence must be at least 2 feet from edge of pit, three sides fenced before beginning drilling, the fourth side fenced immediately upon completion of drilling and prior to rig release. Fence must be left up and maintained in adequate condition until pit is closed.

5. The reserve pit must be lined with an impermeable liner if permeable subsurface material is encountered. An impermeable liner is any liner having permeability less than 10-7 cm/sec. The liner must be installed so that it will not leak and must be chemically compatible with all substances that may be put in the pit. Liners made of any man-made synthetic material must be of sufficient strength and thickness to withstand normal installation and pit use. In gravelly or rocky soils, a suitable bedding material such as sand must be used prior to installing the liner.

6. The reserve pit must be constructed so that at least half of its total volume is below natural ground level.

7. The operator must complete federal CBNG wells (case, cement and under ream) as soon as possible, but no later than 30 days after drilling operations, unless an extension is given by the BLM AO.

8. Rat and mouse holes must be filled and compacted from the bottom to the top immediately upon release of the drilling rig from the location. The only fluids/waste materials which are authorized to go into the reserve pit are Resource Conservation and Recovery Act (RCRA) exempt exploration and production wastes. These include:
   - drilling muds & cuttings
   - rigwash
   - excess cement and certain completion & stimulation fluids defined by EPA as exempt

   It does not include drilling rig waste, such as:
   - spent hydraulic fluids
   - used engine oil
   - used oil filter
   - empty cement, drilling mud, or other product sacks
   - empty paint, pipe dope, chemical or other product containers
   - excess chemicals or chemical rinsate

9. Any evidence of non-exempt wastes being put into the reserve pit may result in the BLM Authorized Officer requiring specific testing and closure requirements.

10. Any materials classified as nonexempt hazardous wastes must be disposed of in an EPA approved facility.

<u>Access</u>

1. Access roads, including drainage control, must be improved and maintained as necessary or as directed by the BLM Authorized Officer to prevent soil erosion and to provide for safe and environmentally-sound access.

2. Vehicle travel on unimproved two-track roads is prohibited during periods of inclement weather or spring thaw when the possibility exists for excessive surface resource damage such as creating ruts in excess of 4 inches or causing vehicles to travel outside two-track roadway.

3. Culverts must be placed on channel bottoms on firm, uniform beds, which have been shaped to accept them and aligned parallel to the channel to minimize erosion. Backfill material must be thoroughly compacted. All culverts must be appropriately sized in accordance with standards in BLM Manual 9113.

4. Construction and other project-related traffic are restricted to approved routes. Cross-country vehicle travel is not allowed.

5. Maximum design speed on all operator constructed and maintained roads must not exceed 25 miles per hour.

6. Water or other non-saline dust suppressants with at least 50 percent control efficiency must be applied during well site, battery site and road construction. Dust inhibitors (surfacing materials, non-saline dust suppressants and water) must be used as necessary on unpaved roads that present a fugitive dust problem. The use of chemical dust suppressants on public surface will require prior approval from the BLM Authorized Officer.

7. The operator must establish, post and enforce speed limits to achieve at least a 65% reduction of fugitive dust emissions from an assumed base speed equal to 40 miles per hour. The operator must administer dust control measures on active access roads, well sites and battery sites.

Well Sites

1. Equipment must not be stored on the topsoil stockpiles

2. A minimum 20-foot undisturbed vegetative border must be maintained between toe-of-fill of pad and/or pit areas and the edge of adjacent drainages, unless otherwise directed by the BLM Authorized Officer.

Flowlines

1. Pipeline trenches must be compacted during backfilling and must be routinely inspected and maintained to ensure proper stabilization and reclamation.

2. Pipeline construction must not block nor change the natural course of any drainage. Pipelines must cross perpendicular to drainages. Pipelines must not be run parallel in drainage bottoms.

Produced Water

1. The effluent limitations, other conditions and self-monitoring requirements must be met as contained in the MDEQ's MPDES Permit (MT0030457). All reporting will be as described in the MPDES permit, except that reports will be submitted to the BLM rather than to the MDEQ. If adverse monitoring results are recorded, discharge may need to be stopped until a modified Water Management Plan (WMP) which addresses the problem is developed and approved.

Reclamation

1. Reclamation plans must be submitted to BLM for approval via a Notice of Intent (NOI) Sundry Notice before abandoning individual federal POD facilities. Any deviation from the Surface Reclamation Plan included in the Dry Creek POD must be included at this time. Individual facilities include well locations, pipelines, impoundment, discharge point and compressor facilities.

2. Pit reclamation:
    a. All pit(s) must be emptied of all fluids within 90 days after completion of drilling operations. The pit must be closed properly to assure protection of soil, water and vegetation.
    b. The pit may not be cut or trenched.
    c. Pit mud/sludge material may be buried onsite after the material has dried.
    d. The pit material must be covered with a minimum of 3' of soil

3. The reclamation effort will be evaluated as successful if the previously disturbed area is stabilized, all potential water erosion is effectively controlled and the vegetative stand is established with at least a 70% cover when compared to similar adjacent undisturbed areas.

4. The fluids and mud must be dry in the reserve pit before backfilling and recontouring the pit area. The operator must remediate any subsidence areas that develop from closing a pit. The plastic pit liner (if any) must be cut off below grade and properly disposed of at a state authorized landfill before beginning to recontour the site.

5. Areas of surface disturbance must be ripped or scarified to a depth of at least 12 inches before recontouring and redistributing topsoil. The rippers must not be set more than 24 inches apart.

6. Reclamation of the sites on private surface must be in accordance with the surface owner's requirements. The disturbed areas would be disked and seeded with a weed-seed free mix approved by the appropriate surface owner. At a minimum, 12 pounds per acre of seed would be planted, with the initial reseeding in the fall of 2005.

7. Topsoil must be distributed evenly over the entire recontoured area. Prepare the seedbed by disking to a depth of 4-to-6 inches following the contour. Seed must be drilled on the contour to a depth of one-half inch, followed by cultipaction to compact the seedbed, preventing soil and seed losses.

8. Any mulch used for reclamation must to be certified weed-seed free and crimped into the soil.

9. Complete fall seeding after September 15 and prior to prolonged ground frost. To be effective, complete spring seeding after the frost has left the ground and prior to May 15.

10. Waterbars must be constructed at least one (1) foot deep, on the contour with approximately two (2) feet of drop per 100 feet of waterbar to ensure drainage and extended into established vegetation. All waterbars are to be constructed with the berm on the downhill side to prevent the soft material from silting in the trench. The initial waterbar should be constructed at the top of the backslope. Subsequent waterbars should follow the following general spacing guidelines:

Slope (percent)	Spacing Interval (feet)
< 2	200
2 – 4	100
4 – 5	75
> 5	50

11. BLM will not release the bond until all disturbed areas associated with the APD/POD have been successfully revegetated (evaluation will be made after the second complete growing season) and has met all other reclamation goals of the surface owner and surface management agency.

12. For bond release approval, a Final Abandonment Notice (with a surface owner release letter on split-estate) must be submitted prior to a final abandonment evaluation by BLM.

13. Soil fertility testing and the addition of soil amendments may be required to stabilize some disturbed lands.

14. The abandonment marker must exhibit the same information required for the well sign. The abandonment marker must be installed when the wells are plugged and consist of a steel plate welded to surface casing 4 feet below ground level.

OTHER APPLICABLE REQUIREMENTS

This is not a complete list of requirements, but is an abstract of some major requirements.

1. General Requirements

a. The lessee or designated operator shall comply with applicable laws and regulations; with the lease terms, Onshore Oil and Gas Orders; NTL's; and with other orders and instructions of the authorized officer. Any

deviation from the terms of the approved APD require prior approval from BLM (43 CFR 3162.1(a)).

b. If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease due to a lease or unit boundary change, the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer.

2. Drilling Operations (Onshore Order No. 2)

a. All applicable safety precautions outlined in Onshore Order No. 2 shall be observed.

3. Well Abandonment (43 CFR 3162.3-4, Onshore Order No. 1 - Sec. V)

Approval for abandonment shall be obtained prior to beginning plugging operations. Initial approval for plugging operations may be verbal, but shall be followed-up in writing within 30 days. Subsequent and final abandonment notifications are required and shall be submitted on Sundry Notice (Form 3160-5), in triplicate.

4. Reports and Notifications (43 CFR 3162.4-1, 3162.4-3)

a. Within 30 days of completion of the well as a dry hole or producer, a copy of all logs, core descriptions, core analyses, well-test data, geologic summaries, sample descriptions or data obtained and compiled during the drilling, workover, and/or completion operations shall be filed with a Completion Report (Form 3160-4), in duplicate.

b. In accordance with 43 CFR 3162.4-3, this well shall be reported on the Oil and Gas Operations Report (OGOR, MMS-4054), starting with the month in which drilling operations commence, and continuing each month until the well is physically plugged and abandoned.

c. Notify this office within 5 business days of production start-up if either of the following two conditions occur:

(1) The well is placed on production.
(2) The well resumes production after being off of production for more than 90 days.
"Placed on production" means shipment or sales of hydrocarbons from temporary tanks, production into permanent facilities or measurement through permanent facilities.

Notification may be written or verbal with written follow-up within 15 days, and must include the following information:

1. Operator name, address, and telephone number.

2. Well name and number, county and state.

3. Well location, "¼¼", Section, Township, Range, P.M."

4. Date well begins or resumes production.

5. The nature of the well's production; that is crude oil, or crude oil casing gas, or natural gas and entrained liquid hydrocarbons.

6. The Federal or Indian lease number.

7. As appropriate, the Unit Agreement name, number and Participating Area name.

8. As appropriate, the Communitization Agreement number.

5. Verbal Notifications

Made to the BLM, MCDO 406-232-7001, or after business hours to the appropriate individual's home phone shown on the list attached.

A. Notify this office verbally at least 48 hours prior to beginning construction.
B. Notify this office verbally at least 12 hours prior to spudding the well. (To be followed up in writing within 5 days.)
C. Notify this office verbally at least 12 hours prior to running any casing or conducting any BOP tests. (To be followed up in writing within 5 days.)
D. Notify this office verbally at least 6 hours prior to commencing any DST test.
E. Notify this office verbally at least 24 hours prior to plugging the well to receive verbal plugging orders. (Refer to Informational Notice Item No. 3 for additional abandonment instructions.)
F. Notify this office verbally at least 24 hours prior to removal of fluids from the reserve pit.

6. Environmental Obligations and Disposition of Production (43 CFR 3l62.5-1, 3162.7-1 and 40 CFR 302-4)

a. With BLM approval, water produced from newly completed wells may be temporarily stored in reserve pits up to 90 days. During this initial period, application for the permanent disposal method shall be made to this office in accordance with Onshore Order No. 7. If underground injection is proposed, an EPA or State permit shall also be obtained. If surface discharge of produced water is proposed, an MPDES permit shall also be required.

b. Spills, accidents, fires, injuries, blowout and other undesirable events shall be reported to this office within the timeframes in NTL-3A.

c. You are required to take all necessary steps to prevent any death of a migratory bird in pits or open vessels associated with the drilling, testing, completion, or production of this well. The death of any migratory bird found in such a pit or open vessel is a violation of the Migratory Bird Treaty Act and is considered a criminal act. Any deaths of migratory birds attributable to pits or open vessels associated with drilling, testing, completing or production operations must be reported to this office and the United States Fish and Wildlife Service within 24 hours.

We may require that the pit be designed or the open vessel be covered to deter the entry of birds in any facility associated with drilling, testing, completion or production of this well. Fencing, screening and netting of pits may be required as a means to deter bird entry. These conditions would most likely be imposed to prevent the entry of migratory birds if oil is left in pits or open vessels after the cessation of drilling or completion of operations, if water disposal pits consistently receive oil, or if pits or open vessels are used repeatedly for emergency situations which result in the accumulation of oil.

Voluntary pit fencing, screening and netting, or sealing vessels, is encouraged to avoid potential instances that may result in the death of a migratory bird.

7. Well Identification (43 CFR 3162.6)

Each drilling, producing or abandoned well shall be identified with the operator's name, the lease serial number, the well number, and the surveyed description of the well (either footages or the quarter-quarter section, the section, township and range). The Indian lessor's name may also be required. All markings shall be legible, and in a conspicuous place.

8. A complete copy of the approved Application for Permit to Drill (APD), including conditions, stipulations, and the H2S contingency plan (if required) shall be available for reference at the well site during the construction and drilling phases.

9. This drilling permit is valid for either one year from the approval date or until lease expiration, whichever occurs

first.

10. Public Availability of Information (43 CFR 3100.4)

All submitted information not marked "CONFIDENTIAL INFORMATION" will be available for public inspection upon request.

If you have any questions, please contact a member of our staff at 406-232-7001, or at home after business hours.

APPENDIX G
AIR QUALITY

Any future drilling and testing of new wells or production activities would be analyzed as part of the future proposal(s). MDEQ currently maintains a modeling database to track CBNG production activity in Montana and the model is updated with each new NO_x emitting facility that locates in the area defined by the MT FEIS. Air quality impacts associated with CBM production is the major air quality concern because, as demonstrated by the emission inventories completed as part of this review, emissions from CBNG exploration are very small and temporary in nature. MDEQ will continue to model NO_x emitting units that locate in the area defined by the MT FEIS to ensure that the MAAQS and NAAQS, as well as the Class I and Class II NO_x PSD increments, are not exceeded.

To date, no MAQP application for CBNG facilities have required a PSD increment analyses. However, MDEQ requires all CBNG facilities that require a MAQP to conduct a PSD Class II increment analysis. As CBNG production continues, or are proposed on properties closer to the Northern Cheyenne Indian Reservation, MDEQ will require applicants to conduct PSD Class I increment analyses, as well as PSD Class II increment analyses. Typically, the models have shown that the receptor demonstrating the highest impact is near the fence line of the proposed facility that is being modeled. In addition, as CBNG development continues, MDEQ may require sources conducting modeling for CBNG facilities to include the receptor that showed the highest impacts from previous models. However, because the previous models have shown that the receptor demonstrating the highest impact is near the fence line of the proposed facility that is being modeled and because CBNG development is not yet widespread in Montana, it is not yet necessary to include the prevalent receptor demonstrating the highest impact from previous models. Therefore, the cumulative impacts modeling that was conducted for the Badger Hill POD is still representative of the cumulative impacts of the area because the proposed action would not impact the receptor that demonstrated the highest impact from the Badger Hills POD modeling analysis.

Aspen Consulting & Engineering (Aspen) conducted the air quality modeling for the Symons Central Compressor Station as part of the MAQP application, and the MDEQ conducted an independent review of the modeling. The Environmental Protection Agency (EPA) approved Industrial Source Complex (ISC3) model and 6 years of meteorological data (1984 and 1987 through 1990) were utilized for the air quality model. The surface data was collected at the Sheridan County Airport in Sheridan, Wyoming, and the upper air data was collected at the Lander Hunt Field, Wyoming site. The receptor grid elevations were derived from digital elevation model (DEM) files using the United States Geological Survey (USGS) 7.5-minute series (1:24,000 scale) digitized topographic maps. The Decker, Holmes Ranch, and Pearl School Montana quadrangles, as well as the Acme, Bar N Draw, and Cedar Canyon Wyoming quadrangles were used to determine the receptor grid. The receptors were placed along the fence line at 50-meter (m) intervals, from the fence line to 1 kilometer (km) beyond the fence line at 100-m intervals, from 1 km beyond the fence line to 3 km beyond the fence line at 250-m intervals, and from 3 km beyond the fence line to 10 km beyond the fence line at 500-m intervals. In addition, receptors were placed on the Northern Cheyenne Indian Reservation to determine compliance with the PSD Class I Increment. Building downwash was calculated using the EPA Building Profile Input Program (BPIP). The building corner coordinates and peak roof heights were provided by a company plot plan submitted as part of the MAQP application and were used to determine the appropriate direction-specific building dimension parameters to use for each emission source evaluated in the model.

In addition to the NO_x emissions from the Symons Central Compressor Station, NO_x emissions from facilities located within 10-km of the site were also included in the model. The total NO_x emissions ($NO + NO_2$) from each source were assumed as the basis for the model. Once the highest concentrations (one-hour high-second-high and annual high) were determined, the Ozone Limiting Method (OLM) was applied to the one-hour high-second-high NO_x concentration and the Ambient Ratio Method (arm) was applied to the annual high NO_x concentration to convert the total modeled NO_x emissions to NO_2 for comparison to the MAAQS and NAAQS. See results in section 4.2.1.

For reference, the most recent ambient air quality modeling that was conducted for CBNG compressor stations was completed for the Rancholme 28 Battery located in the NW¼ of Section 28, Township 9 South, Range 41 East, in Big Horn County, Montana. Aspen conducted the air quality modeling for the Rancholme 28 Battery as part of the MAQP application, and the MEQ conducted an independent review of the modeling. The EPA approved ISC3 model and 6 years of meteorological data (1984, 1987 through 1990) were utilized for the air quality model. The surface data was collected at the Sheridan County Airport in Sheridan, Wyoming, and the upper air data was

collected at the Lander Hunt Field, Wyoming site. The receptor grid elevations were derived from DEM files using the USGS 7.5-minute series (1:24,000 scale) digitized topographic maps. The Decker, Holmes Ranch, Lacey Gulch, Pine Butte School, and Spring Gulch, Montana quadrangles and Cedar Canyon, Bar N Draw, and OTO Ranch, Wyoming quadrangles were used to determine the receptor grid. The receptors were placed along the fence line at 50-m intervals, from the fence line to 1 km beyond the fence line at 100-m intervals, from 1 km beyond the fence line to 3 km beyond the fence line at 250-m intervals, and from 3 km beyond the fence line to 10 km beyond the fence line at 500-m intervals. In addition, receptors were placed on the Northern Cheyenne Indian Reservation to determine compliance with the PSD Class I Increment. Building downwash was calculated using the EPA BPIP. The building corner coordinates and peak roof heights were provided by a company plot plan submitted as part of the MAQP application and were used to determine the appropriate direction-specific building dimension parameters to use for each emission source evaluated in the model. Each NO_X emitting unit from BPCL's Rancholme 28 Battery, as well as area NO_X sources in Montana and Wyoming were input into the air dispersion model. The arm and the OLM were applied to the NO_X emissions to convert the modeled concentrations to NO_2 for comparison to the NAAQS/MAAQS. As shown in the following table, the modeled concentrations are well below the NAAQS/MAAQS.

Rancholme 28 Battery Ambient Modeling Results								
Pollutant	**Avg. Period**	**NO_x Modeled Conc. ($\mu g/m^3$)**	**OLM/arm Adjusted to NO_2 ($\mu g/m^3$)**	**Background Conc. ($\mu g/m^3$)**	**Ambient Conc. ($\mu g/m^3$)**	**NAAQS ($\mu g/m^3$)**	**MAAQS ($\mu g/m^3$)**	**% of NAAQS/ MAAQS**
NO_2	1-hr	785	266	75	341	--------	564	60.5
	Annual	27	20	6	27	100	94	27/28.7

[a] Concentration calculated using Ozone Limiting Method
[b] Applying ARM with national default of 75%

Because the Class I modeling results from previous CBNG permitting activities demonstrated that the nearest Class I area (Northern Cheyenne Indian Reservation) was hardly impacted (0.1% of the Class I increment consumed by the Symons Central Compressor Station), the MDEQ did not require a Class I increment analysis to be conducted for the Rancholme Battery. However, as CBNG development continues, MDEQ will periodically require ambient air quality modeling that would include a Class I increment analysis. The MDEQ did require a Class II increment analysis as part of the Rancholme 28 MAQP application. The Class II increment analysis demonstrated compliance with the Class II increments. The Class II modeling results are summarized in the following table.

Class II Modeling Results				
Pollutant	**Avg. Period**	**Class II Modeled Conc. ($\mu g/m^3$)**	**Class II Increment ($\mu g/m^3$)**	**% Class II Increment**
NO_x	Annual [a]	20	25	80.0

In summary, modeling was conducted to determine compliance with the MAAQS and the NAAQS, and the NO_x PSD Class II increments. The modeling results demonstrated that neither the MAAQS nor the NAAQS would be violated. In addition, the PSD increment analysis for NO_x demonstrated that the Class II NO_x increment would not be exceeded.

APPENDIX H
OIL & GAS LEASE STIPULATIONS

Certain resources require protection from impacts associated with oil and gas activities. The specific resource and the method of protection are contained in lease stipulations. Lease stipulations are usually no surface occupancy, controlled surface use or timing limitation. Lease stipulations become a part of the lease and modify the terms of the lease.

Circumstances under which stipulations may be waived, excepted or modified are described in the stipulation. Stipulations may be waived, excepted, or modified at the discretion of the Authorized Officer during the environmental review process conducted for proposed Applications for Permit to Drill (APDs) or other permits related to oil and gas exploration and development. Waivers, exceptions and modifications of stipulations must be granted in accordance with the guidelines identified in the Record of Decision for the Miles City Oil & Gas RMP/FEIS Amendment, 1994.

The lessee or operator may submit a written request to the Authorized Officer for a waiver, exception or modification. The Authorized Officer will respond in writing by either granting or denying the request after reviewing circumstances and data pertinent to the request, as well as consulting with other applicable agencies. The response will include any constraints associated with granting the request or reasons for denying the request.

Dry Creek POD mule deer winter range exception criteria:

Construction and drilling timing stipulation for mule deer winter range: All of the federal wells proposed within the Dry creek POD would be located within identified mule deer winter range. Construction and drilling activities are prohibited from December 1 to March 31, unless BLM grants an exception.

Considerations of conditions addressing occupation or the potential occupation by mule deer on designated mule deer winter range include the following:

Previous, current, and forecasted weather conditions:
Would proposed activities coincide with extreme temperatures and/or snow depths at any part of the construction phase that may result in excess energy usage by mule deer during avoidance, or likewise jeopardize the physical or physiological condition of the animal. In general, in situations where snow depths of six inches or greater for greater than 14 days, combined with prolonged night time temperatures low of 10 degrees or less, the exception request would not be authorized.

Topography:
Is construction proposed on areas with greater topographical relief which are critical to over-winter survival, such as south aspects, characterized by less snow depth and greater solar radiation, or north aspects with structure that provides for thermal regulation.

Proximity of proposed location relative to current and or on-going daily activities
Proposed development on potential habitat adjacent to areas characterized by high levels of disturbance may not be occupied by mule deer due to the current level of disturbance, or animals occupying these areas may have acclimated to the conditions and exhibit a high tolerance to ongoing disturbance. Generally, short distances (less than one quarter mile) within the line of sight from on-going or current disturbance may be acceptable.

Vegetative components/habitat attributes associated with species requirements.
Is the vegetative component present to support mule deer, specifically shrubs, riparian corridors, wooded areas, etc., or has the vegetation been previously disturbed, modified, or changed, resulting in the low value winter forage/habitat. An example being an area formerly characterized by big sagebrush, now being a grain, hay or tame grass field.

Proposed duration of construction activities.
Will the duration of the proposed action significantly interfere with occupation of the available winter range habitat, and for how long? Will the activities run concurrently with significant weather events and are the impacts locally

significant.

Current years growing season and climatic conditions, i.e. drought
Was the project area affected by drought in the growing season preceding the request and do the vegetative components within crucial habitats fail to provide “normal” nutrient quality, resulting in reduced energy stores in mule deer necessary for over-winter survival.

Other conditions
Are other site-specific conditions present contributing to hardships of mule deer from the proposed action.

A single condition or combination of the above mentioned conditions can result in denial of an exception request.

When the affected areas are assessed, and a determination is made that the impacts are not significant, exceptions will be granted for specific time period. To assure conditions have not changed and the criteria remain being met, 14 days following the exception approval, consultation with company and a field inspection may be required.